

wafer is a chemically reduced form of the ceramic material and is in tension, while the second side (i.e., the convex side) of the wafer is the unreduced form of the ceramic material and is in compression (col. 8, lines 26-42). With respect to this monolithic structure, Haertling states in col. 9, lines 16-19 that "use of the reduced layer 28 as the stress biasing substrate as well as one of the electrodes effectively eliminates the bonding problem usually encountered in conventional transducer operation."

Elimination of bonding is reiterated as an advantage of the invention at col. 5, line 66 through col. 6, line 4 and at col. 10, lines 65-66. Thus, Haertling teaches a monolithic device in which a prestressing layer is chemically formed in-situ to actively create the curvature in the wafer without the need for bonding. Therefore, there is no explicit or implied motivation to modify the monolithic device of Haertling to achieve the desired stress state with the plural, bonded layers of Corwin, nor is there a reasonable expectation of success from such modification, in view of the prior art reviewed by Haertling. With regard to the Examiner's statement that "It has long been held that making parts integral or separable is within the skill expected of the routineer.", Applicants urge that the "separation" of a chemically reduced portion of a monolithic structure from the unreduced portion of that monolithic structure, and the substitution with bonded layers, is neither obvious nor is it analogous to the substitution of a removable cap of a lipstick holder for a press fitted cap, *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961), or the substitution of an integral brake drum apparatus for a single unit with rigidly secured parts, *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965), (referencing MPEP 2144.04(V)(B) and (C)). Therefore, the combination of Haertling and Corwin do not teach the claimed invention as a whole, including the convex surface of the prestressing layer bonded to the concave surface of the piezoelectric layer and imparting a prestress on the piezoelectric layer such that the piezoelectric layer is in compression. Therefore, Applicants respectfully submit that independent claim 17, and the claims which depend therefrom, are not obvious over Haertling in view of Corwin.

In view of the above, Applicants submit that the present invention as claimed is

not obvious. Thus, reconsideration of the amended application and early allowance is respectfully requested.

The Examiner is invited to contact the undersigned at (757) 864-3521 to discuss any matter concerning this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'L. Blackburn', written in a cursive style.

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